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REMARKS

This response intended as a full and complete response to the non-final Office Action mailed December 8, 2004. In the Office Action, the Examiner notes that claims 1-15 are pending and rejected. By this response, claims 1-15 continue unamended.

REJECTIONS

35 U.S.C. §102

Claims 1-5 and 8-13

The Examiner has rejected claims 1-5 and 8-13 under 35 U.S.C. §102(e) as being anticipated by Geile et al. (U.S. 6,279,158 B1, hereinafter "Geile"). The Applicants respectfully traverse the rejection.

The Applicants' independent claim 1 (and similarly independent claims 9, 11 and 13) recites:

"A method for transport of control information and data over a data link, comprising:

generating a signal by combining the control information with the data, wherein the data is transmitted within a prescribed frequency bandwidth, wherein a frequency gap is defined within the frequency bandwidth, wherein control information is transmitted over the data link within the frequency gap, and wherein the data handling capacity of the data link is maintained." (emphasis added.)

"Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim" (Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)) (emphasis added). The Geile reference fails to disclose each and every element of the claimed invention, as arranged in the claim.

The Geile reference discloses

"Referring to FIG. 13, the spectrum allocation for one 6 MHz band for upstream and downstream transport of telephony information and control data utilizing OFDM techniques is shown. The waveform preferably has 240 payload channels or

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DS0+channels which include 480 carriers or tones for accommodating a net data rate of 19.2 Mbps, 24 IOC channels including 46 carriers or tones, and 2 synchronization channels. Each synchronization channel includes two carriers or tones and is each offset from 24 IOC channels and 240 payload channels by 10 unused carriers or tones, utilized as guard tones. The total carriers or tones is 552. The synchronization tones utilized for synchronization functions as described further below are located at the ends of the 6 MHz spectrum and the plurality of orthogonal carriers in the 6 MHz band are separated from carriers of adjacent 6 MHz bands by guard bands (516.0 kHz) at each end of the 6 MHz spectrum. The guard bands are provided at each end of the 6 MHz band to allow for filter selectivity at the transmitter and receivers of the system." (See Geile, column 41, lines 1-19, and FIG. 13).

Nowhere in the Geile reference is there any teaching or suggestion of "wherein a frequency gap is defined within the frequency bandwidth," and "wherein control information is transmitted over the data link within the frequency gap." That is, the Applicants' invention provides "a frequency domain control information transmission system that inserts signals into the frequency minima locations" show locations. By contrast, the Geile reference fails to teach, or even suggest, that the control information is transmitted over the data link within the frequency gap. Rather, Geile merely discloses a 6 MHz channel having 516 kHz guard bands. As shown in FIG. 13, there is no control information inserted into these guard bands. Since the Geile reference fails to teach "control information is transmitted over the data link within the frequency gap," the Geile reference fails to teach each and every element of the claimed invention, as arranged in the claim.

By contrast, the Geile reference fails to teach, or even suggest, that the control information is transmitted over the data link within the frequency gap. Rather, Geile merely discloses a 6 MHz channel having 516 KHz guard bands. As shown in FIG. 13, there is no control information inserted into these guard bands. Since the Geile reference fails to teach "control information is transmitted over the data link within the frequency gap," the Geile reference fails to teach each and every element of the claimed invention, as arranged in the claim.

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As such, the Applicants submit that independent claims 1, 9, 11 and 13 are not anticipated and fully satisfy the requirements of 35 U.S.C. §102 and are patentable thereunder. Furthermore, claims 2-5, 8, 10 and 12 depend, either directly or indirectly, from independent claims 1, 9, 11 and 13 and recite additional features thereof. As such and at least for the same reasons as discussed above, the Applicants submit that these dependent claims are also not anticipated and fully satisfy the requirements of 35 U.S.C. §102 and are patentable thereunder. Therefore, the Applicants respectfully request that the Examiner's rejection be withdrawn.

35 U.S.C. §103

Claims 6, 7, 14 and 15

The Examiner has rejected claims 6, 7, 14 and 15 as being unpatentable over Geile. The Applicants respectfully traverse the rejection.

"The test under 35 U.S.C. §103 is not whether an improvement or a use set forth in a patent would have been obvious or non-obvious; rather the test is whether the claimed invention, considered as a whole, would have been obvious. Jones v. Hardy, 110 USPQ 1021, 1024 (Fed. Cir. 1984) (emphasis added). Thus, it is impermissible to focus either on the "gist" or "core" of the invention, Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc., 230 USPQ 416, 420 (Fed. Cir. 1986) (emphasis added). Furthermore, the mere fact that a prior art structure could be modified to produce the claimed invention would not have made the modification obvious unless the prior art suggested the desirability of the modification. In re Fritch, 23 U.S.P.Q.2d 1780, 1783 (Fed. Cir. 1992); In re Gordon, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984). Moreover, the invention as a whole is not restricted to the specific subject matter claimed, but also embraces its properties and the problem it solves. In re Wright, 6 USPQ 2d 1959, 1961 (Fed. Cir. 1988) (emphasis added)."

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Claims 6, 7, 14, and 15 respectively depend from independent claims 1 and 13, and recite additional features therefrom. In particular, dependent claim 6 (and similarly dependent claims 7, 14 and 15) recite in part:

"A method for transport of control information and data over a data link, comprising:

generating a signal by combining the control information with the data, wherein the data is transmitted within a prescribed frequency bandwidth, wherein a frequency gap is defined within the frequency bandwidth, wherein control information is transmitted over the data link within the frequency gap, and wherein the data handling capacity of the data link is maintained." (emphasis added.)

As discussed above, nowhere in the Geile reference is there any teaching or suggestion of "control information is transmitted over the data link within the frequency gap." Rather, the Geile reference merely discloses a 6 MHz channel having 516 kHz guard bands on each side and without any control information provided at such guard band frequencies. Therefore, since the Geile reference fails to teach or suggest "a frequency gap is defined within the frequency bandwidth," and "control information is transmitted over the data link within the frequency gap," the Geile reference fails to teach or suggest the Applicants' invention as a whole..

As such, the Applicants submit that independent claims 1, 9, 11 and 13 are not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Furthermore, claims 6, 7, 14 and 15 depend from independent claims 1 and 13 and recite additional features thereof. As such and at least for the same reasons as discussed above, the Applicants submit that these dependent claims are also not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Therefore, the Applicants respectfully request that the Examiner's rejection be withdrawn.

SECONDARY REFERENCES

The secondary references made of record are noted. However, it is believed that the secondary references are no more pertinent to the Applicants'

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disclosure than the primary references cited in the Office Action. Therefore, the Applicants believe that a detailed discussion of the secondary references is not necessary for a full and complete response to this office action.

CONCLUSION

Thus, the Applicants submit that the pending claims are in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, it is requested that the Examiner telephone Eamon J. Wall at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

3/2/05

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